

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 160-67091	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US03/30453	International filing date (day/month/year) 26 SEPTEMBER 2003	(Earliest) Priority Date (day/month/year) 27 SEPTEMBER 2002
Applicant RADIAL ANTENNA TECHNOLOGIES, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

- ☐ the text is approved as submitted by the applicant.
- ☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. 1

- ☐ as suggested by the applicant.
- ☒ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.

☐ None of the figures.

Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

NEW ABSTRACT

A compact, vehicle-mounted antenna (10) is disclosed. In one embodiment, first and second antenna elements (30, 40) are positioned on a conductive ground plane (Fig. 1). The antenna elements can comprise a platform supported by a ground (34) and a feed (36). The antenna elements can be tuned to various bands (e.g., cellular or PCS). At least one additional antenna element (e.g., a GPS receive antenna 60) can be positioned between the two antenna elements. One of the feeds of the antenna elements can be angled so that the antenna element has a desired height (e.g., a height matching the other antenna element). The antenna elements can be electrically connected to a transmission line (116) via a single feed line.

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ABSTRACT

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/30453

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H01Q 1/32, H01Q 1/38.

US CL : 343/711, 712, 713, 702, 826, 846, 853

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 343/711, 712, 713, 702, 826, 846, 853

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	A 6,429,818 B1 (JOHNSON et al) 06 August 2002 (06/08/2002). Figs. 1, 10-11; cols. 4, 6-7.	1, 11
X	US 6,339,402 B1 (McKivergan) 15 January 2002 (15/01/2002), Figs. 2, cols. 3-4.	1, 11, 13-16
X	US 6,295,030 B1 (KOZAKAI et al) 25 September 2001 (25/09/2001), Figs. 6, 14.	1, 7-11, 20, 24
A		2-6, 12-19, 21-23, 25-48
X	US 6,222,497 B1 (HU et al) 24 April 2001 (24/04/2001), Figs. 1-3, cols. 4-5.	17



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"G" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

22 DECEMBER 2003

Date of mailing of the international search report

12 JAN 2004

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

TRINH VO DINH

Telephone No. (703) 305-4525

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/30453

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P A	US 6,542,123 B1 (CHEN) 01 April 2003 (01/04/2003), Figs. 3-5, col. 2.	1-6,18-19. 7-17,20-48.